

IEDScout

## What's New in Version 5.11



## **1 Bug fixes and stability improvements**

- Several smaller tweaks and bug fixes improve overall performance and stability.

## **1 New features and improvements**

### **1.1 Additional platform and password protection**

IEDScout is now also available on the RBX1, which is designed for permanent installation in a substation. Both the MBX1 and the RBX1 platform support setting a password to protect your device.

### **1.2 Improved Windows 10 support**

To better support IEDScout on Windows 10, we replaced WinPcap with Npcap. This improves stability and performance for IEDScout. Npcap is installed in a way that should not affect existing WinPcap installations.

## **2 Bug fixes and stability improvements**

- Logical nodes of type APC are controllable again.
- Support for buffered report control blocks from IEC 61850 Edition 2.1.
- OMICRON's IEC 61850 library has been updated to include the latest developments in standardization and improve interoperability.

It's great to see IEDScout using all the advantages of our new MBX1.

Lucia Amann, OMICRON Software Quality Engineer

Not being forced to connect your everyday working laptop to the substation network is a big benefit for cyber security.

Julian Pfanner, OMICRON Software Developer

## 1 Introduction

IEDScout is a versatile software tool for working with IEC 61850 devices. With Version 5.0, IEDScout offers a new level of cyber security and powerful simulation utilizing the new MBX1/RBX1 hardware.

## 2 Secure connection

With IEDScout on the MBX1/RBX1, it is no longer necessary to connect your PC directly to the substation network and change your network settings to make it work. Connect the PC directly to the MBX1/RBX1 control port and the MBX1/RBX1 station ports to your substation network to browse, simulate or sniff with IEDScout. When connected, the MBX1/RBX1 serial number is displayed on the right side of the footer bar.

**Note:** Refer to the IEDScout Help for more information about the MBX1/RBX1 cyber security features.

## 3 Powerful simulation

Setting up an IED simulation is now faster than ever: Import your SCL file and IEDScout will automatically configure IP and port settings. Select the MBX1/RBX1 network ports to use and you are ready to go. The simulation runs on the powerful MBX1/RBX1 hardware and does not affect the performance of your PC anymore.

**Note:** When using the MBX1/RBX1, the file transfer service is not supported for simulated IEDs.

## 4 Easy license sharing

When using IEDScout with the MBX1/RBX1, the software license is stored on the device, so wherever the MBX1/RBX1 device goes, the IEDScout license is already there.

**Note:** Only one IEDScout installation at a time can use an MBX1/RBX1 device.

## 5 Other improvements

- IEDScout now supports function-related naming for logical devices according to IEC 61850-6:2010.
- The icon set has been updated to provide a smooth user experience when used together with StationScout/StationGuard.
- Improved screen scaling for better readability on high resolution screens.
- License information is now available in the configuration dialog.
- OMICRON's IEC 61850 library has been updated to include the latest developments in standardization and improve interoperability.
- The usability of IEDScout is continuously improved based on expert reviews and customer feedback.
- Several smaller tweaks and bug fixes improve overall performance and stability.

## 1 Thanks!

We listened to the feedback we got from you and implemented the most frequently wished features and improvements in this update. Thanks for your valuable feedback.

*Customers who already have an IEDScout version 4.x can upgrade to this version free of charge.*

## 2 Fast Discovery of IEDs

Data models of modern IEC 61850 IEDs are getting larger and IEDs with more than 100.000 data attributes are not seldom anymore.

Large, but also small IEDs are now discovered much faster than with previous versions of IEDScout. A few seconds after starting the Discover operation, the data model can already be used while IEDScout does all reading and analyzing in the background.

Opening SCL files of large IEDs and browsing through such data models is now also faster.

## 3 File transfer support

The new IEC 61850 file transfer feature in IEDScout allows to browse and download disturbance recordings, event logs, and other files from IEDs. Disturbance recordings in COMTRADE format, where one recording consists of multiple files, can be downloaded and opened conveniently with a single click.

## 4 Setting Groups with insight

The Setting Group service in IEC 61850 is used to provide groups of setting values spread over different logical nodes, which can be applied together at once. Each setting group provides an own set of values for the affected data attributes. There are different applications for this service, one example is by applying different sets of protection parameters.

IEDScout 4.20 has a new screen that provides a convenient overview over the affected data attributes and their values in the different setting groups. Using this, all values can be safely previewed before switching to a different setting group. Also editing settings in the active setting group is simple.

## 5 Better overview in Activity Monitor

In commissioning and testing situations the Activity Monitor will now give a clearer overview by showing the path of the Data Object up to the Logical Device name. Additionally, the size of the elements in the Activity Monitor has been increased in the default zoom.

## 6 More improvements

Also, these smaller feature wishes have been implemented:

- IED names are now guessed more intelligently after discover.
- The TimeQuality of TimeStamps can now be edited in Browser and IED Simulator.
- Simulated IEDs now support file transfer to test file transfer clients.
- Setting Group Control Blocks now supported in simulated IEDs.
- The IED simulator now supports the IEC 61850 Substitution service.
- Added special diagnostics to find errors in GrRef values and namespaces in SCL files.
- Added support for some legacy MMS services for compatibility.

## 1 Introduction

IEDScout is a versatile software tool for working with IEC 61850 devices. The new version 4.10 of IEDScout provides many new features, improvements and bug fixes.

## 2 IED Simulation

The new IEDScout 4.10 provides a full-featured IEC 61850 IED simulator. Only an SCL file is needed to simulate all IEC 61850 communication aspects of an IED. This includes sending GOOSE, providing a server with buffered and unbuffered reports to clients and supporting all IEC 61850 control operations. This can be used for example to simulate a missing IED during commissioning. IEDScout supports simulating Ed.2 and Ed.1 IEDs. The configuration of the simulated GOOSE and reports can be easily modified, and changing data values in the simulated IED automatically triggers GOOSE and reports. The status of the published GOOSE and reports can be conveniently observed in the Activity Monitor.

The already existing GOOSE Simulation has been improved and is now part of the IED Simulation. Instead of just simulating the GOOSE, the whole IED can now be simulated at once.

## 3 Control Operations

The completely re-designed Control dialog now supports extended testing of IEDs. Interlock-check and synchro-check can be enabled directly in the dialog and the Test flag can also be set during Control sequences. Changing originator identification and category is now supported in the dialog as well as it is also possible to test the IED behavior during select-before-operate sequences for different ctrlNum values.

## 4 Hyperlink Navigation

Following a data set member used in a Report or GOOSE to its location in the data model is now possible by clicking the name of the data set member. These hyperlinks also work for GOOSE and Reports shown in the Sniffer (if the associated IED is loaded in IEDScout).

## 5 Improvements and Bug Fixes

The performance and memory usage when loading large SCL files has been improved. SCL files created with IEDScout 4.10 can now contain password authentication mechanisms if the IED supports them. Various improvements have been done to ensure compatibility with IEDs of all vendors. IEDs with MMS ports different than 102 can now be used more conveniently.

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